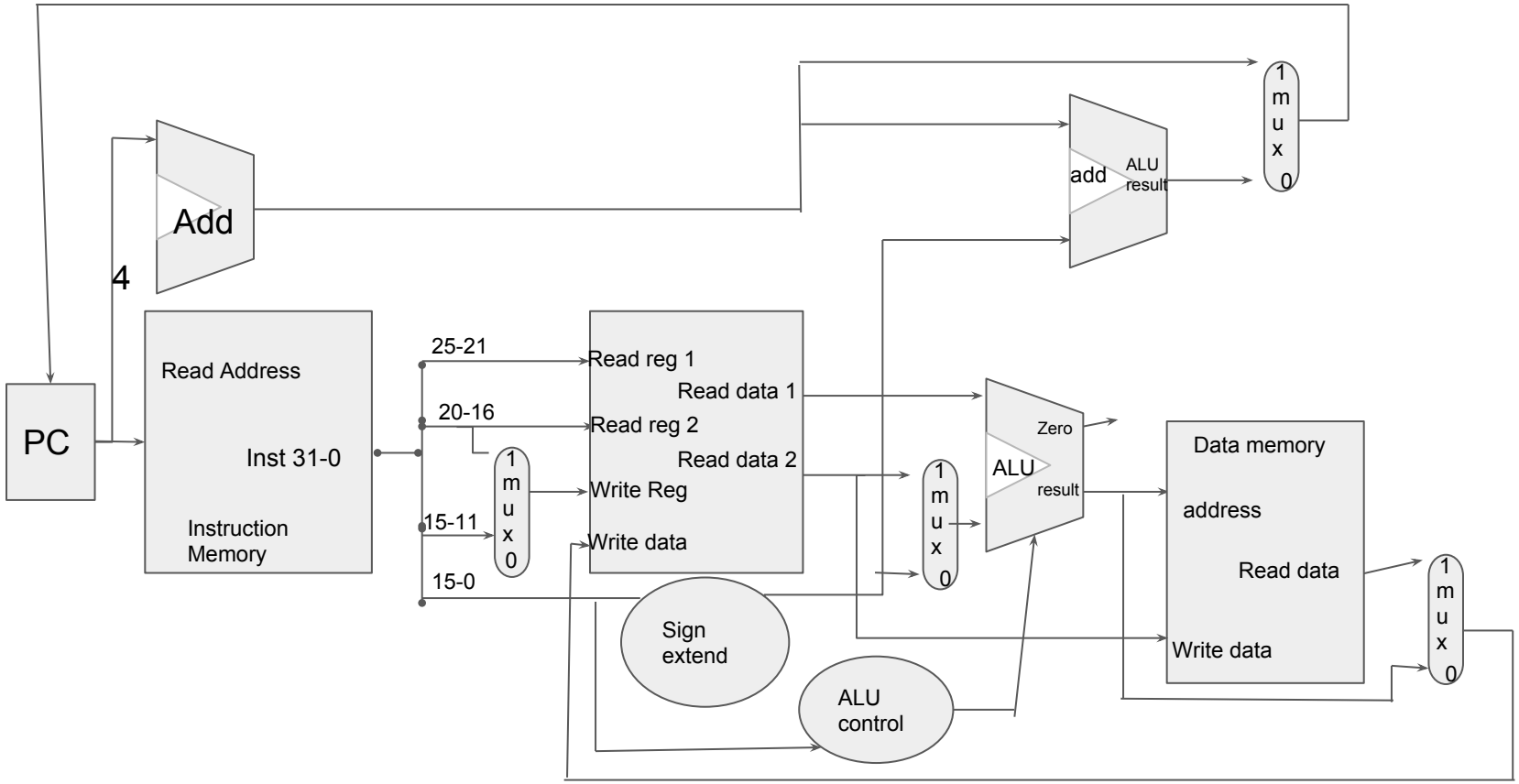
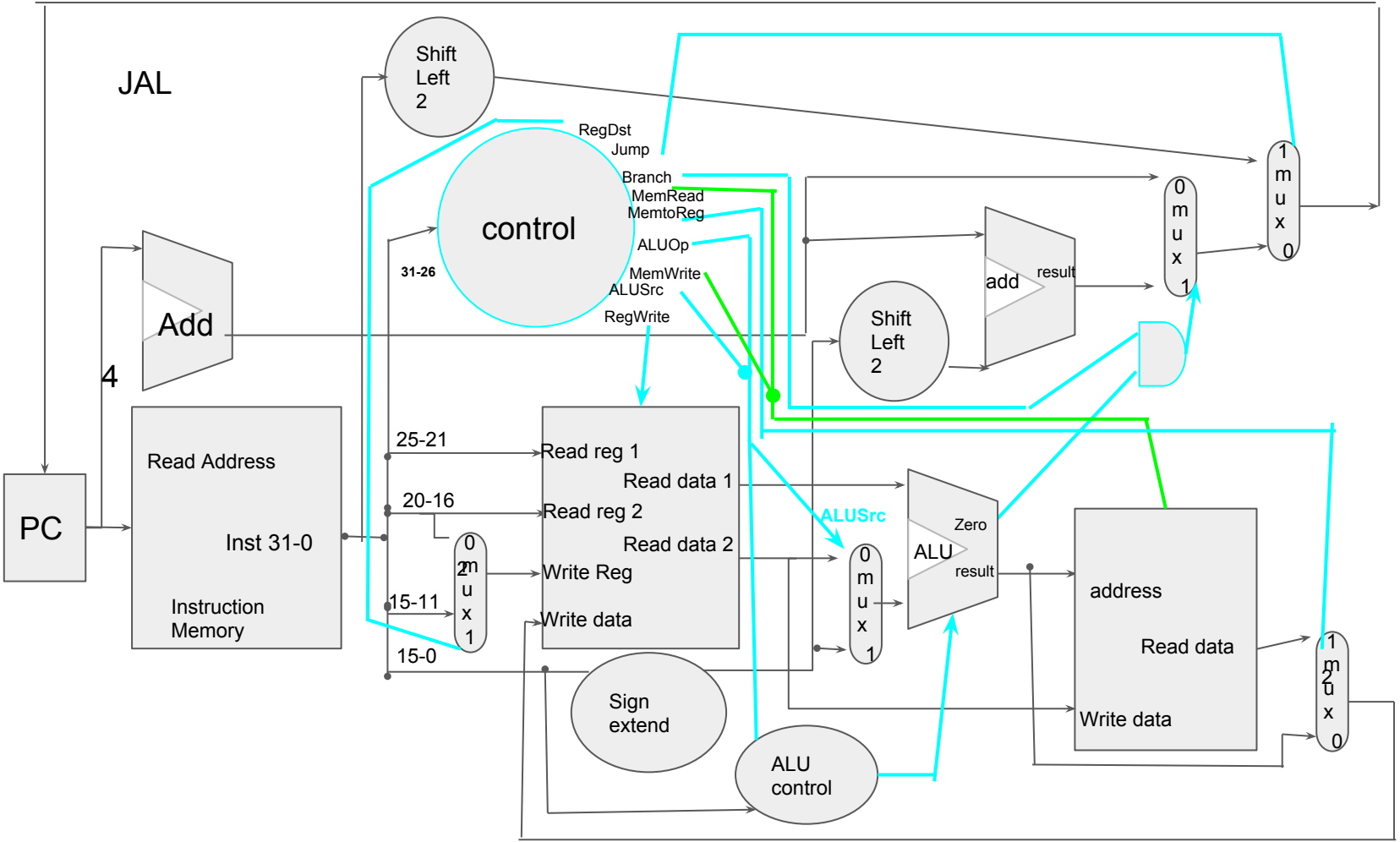
Jr diagram


Add
4
PC
Read Address
Inst 31-0
Instruction Memory
25-21
20-16
15-11
15-0
1 m u x 0
Read reg 1
Read data 1
Read reg 2
Read data 2
Write Reg
Write data
Sign extend
ALU control
add
ALU result
1 m u x 0
ALU
Zero
result
1 m u x 0
Data memory
address
Read data
Write data
1 m u x 0

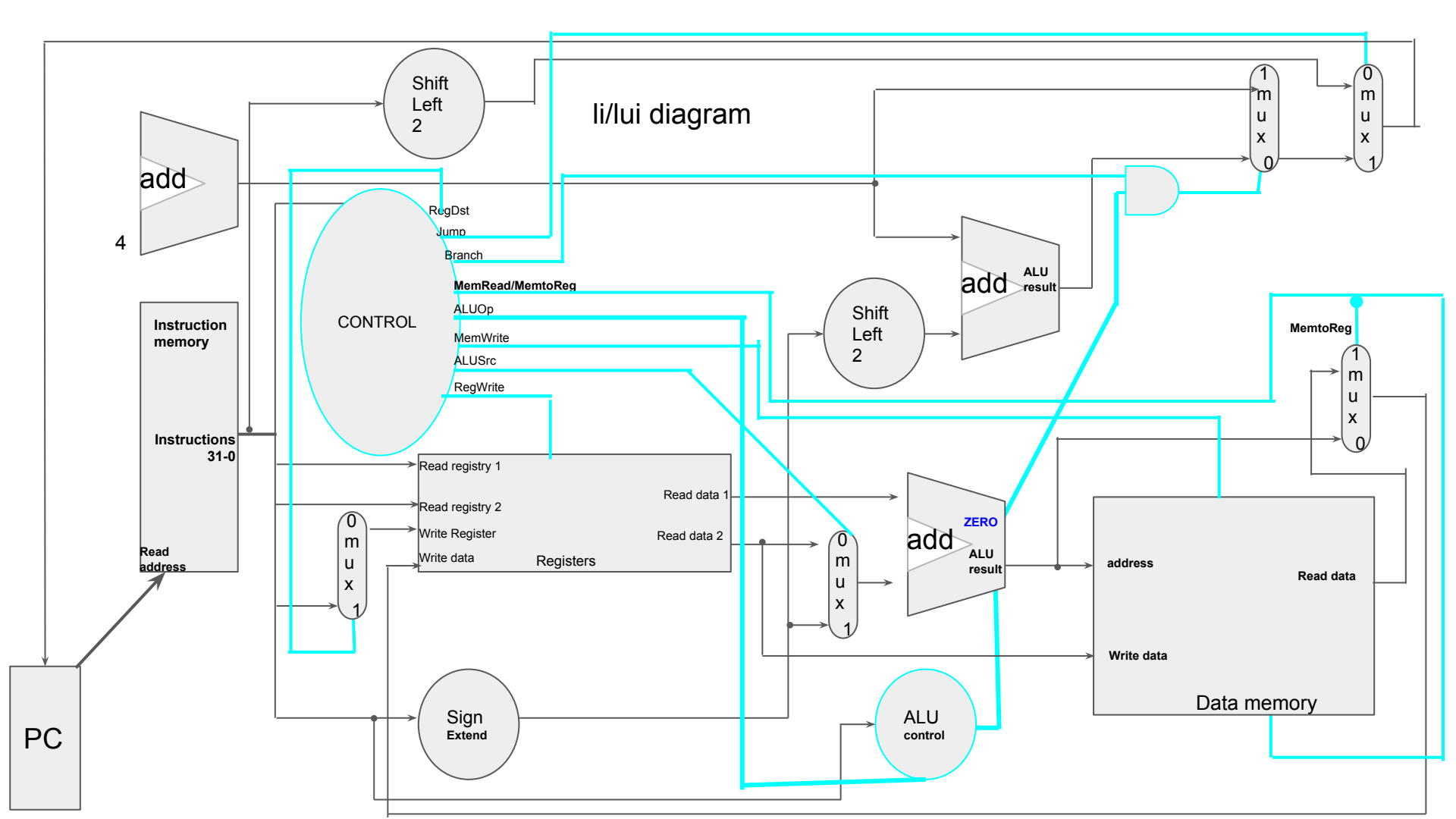
Jr

RegDst	Jump	Branch	MemRead	MemtoReg	ALUOp	MemWrite	ALUSrc	RegWrite
1	0	0	0	0	1	0	0	1


JAL
Shift Left 2
RegDst
Jump
Branch
MemRead
MemtoReg
ALUOp
MemWrite
ALUSrc
RegWrite
control
31-26
Add
4
PC
Read Address
Inst 31-0
Instruction Memory
25-21
20-16
15-11
15-0
Read reg 1
Read data 1
Read reg 2
Read data 2
Write Reg
Write data
0 M u x 1
ALUSrc
ALU
Zero
result
add
result
Shift Left 2
address
Read data
Write data
Sign extend
ALU control
1 M u x 0

JAL

RegDst	Jump	Branch	MemRead	MemtoReg	ALUOp	MemWrite	ALUSrc	RegWrite
0	R[31]	---------	0	PC+4	---------	0	----------	0


li/lui diagram
Shift Left 2
add
4
RegDst
Jump
Branch
MemRead/MemtoReg
ALUOp
MemWrite
ALUSrc
RegWrite
CONTROL
Instruction memory
Instructions 31-0
Read address
PC
Read registry 1
Read registry 2
Write Register
Write data
Read data 1
Read data 2
Registers
0 m u x 1
Sign Extend
Shift Left 2
add
ALU result
1 m u x 0
0 m u x 1
MemtoReg
1 m u x 0
add
ZERO
ALU result
ALU control
address
Read data
Write data
Data memory

li

RegDst	Jump	Branch	MemRead	MemtoReg	ALUOp	MemWrite	ALUSrc	RegWrite
1	0	0	0	1	0	0	0	1

lui

RegDst	Jump	Branch	MemRead	MemtoReg	ALUOp	MemWrite	ALUSrc	RegWrite
0	0	0	1	1	11	0	1	1